Environmental Science, Part 1

How to Take This Course

Complete all the quizzes and the assignment in each unit. Once the quizzes for a unit are complete, you will have access to the unit test. We recommend you complete the unit assignment before you attempt the unit test, the assignment will help you prepare. You will have access to the final when all unit tests are complete and your assignments are graded.

Allow 2-3 days for an assignment to be graded. Read the full course instructions to understand the course grading.

- How This Course Works
- Instructions for the course
- Submitting Your Assigments
- Ask The Teacher

  Meet your teacher for this course and ask a question.

Unit 1. Defining Sustainability

In this unit, you will learn:

- To identify what is “sustainable”.
- The root causes of unsustainability.
- Perspectives on what sustainability is and how "thinking in systems" applies to thinking sustainably.
- To analyze the life cycle of different products, to determine how environmentally friendly they are or are not.

- 1.1 What is Sustainability?
  - 1.1 Quiz
- 1.2 Root Causes of Unsustainability
  - 1.2 Quiz
- 1.3 Thinking Green: Life Cycle Assessment
  - 1.3 Quiz

- 1.4 Thinking Green: Systems Theory
  - 1.4 Quiz
- 1.5 Dissecting the Concept of Sustainability
  - 1.5 Quiz
- Unit 1 Assignment - Sustainability

Unit 2: Energy Resources and Society

In this unit, we will learn:

- the differences between renewable and nonrenewable energy resources
- how we obtain energy from a variety of renewable and nonrenewable sources
- pros and cons of each type of energy
- what the term "fossil fuel" means
- about the concept of "peak oil"

- 2.1 Renewable vs. Nonrenewable Resources
  - 2.1 Quiz
- 2.2 Fossil Fuels
  - 2.2 Quiz
- 2.3 Peak Oil
  - 2.3 Quiz
- 2.4 Solar Energy
  - 2.4 Quiz
- 2.5 Wind Power
  - 2.5 Quiz
- 2.6 Geothermal Energy
  - 2.6 Quiz
- 2.7 Biofuels and Biomass
  - 2.7 Quiz
- 2.8 Nuclear Energy
  - 2.8 Quiz
- 2.9 Hydropower and Tidal Power
  - 2.9 Quiz
- 2.10 Hydrogen Fuel Cells
  - 2.10 Quiz
- Unit 2 Assignment - Self-Sufficiency Engery Portfolio

Unit 3. Energy Conservation and the Home

In this unit, we will learn:

- The basics of maintaining an eco-friendly and energy-efficient home.
- How to use water wisely, and to control the temperature of the home in an environmentally friendly way.
- The basics of efficient appliances, weatherizing, and solar panels.
- About LEED certification, as well as passive and zero energy houses.

- 3.1 A Temperature-Controlled Home
  - 3.1 Quiz
- 3.2 Energy-Efficient Appliances
  - 3.2 Quiz
- 3.3 Weatherizing
  - 3.3 Quiz
- 3.4 Installing Solar Panels
  - 3.4 Quiz
- 3.5 LEED Certification
  - 3.5 Quiz
- 3.6 Passive and Zero Energy Houses
  - 3.6 Quiz
- 3.7 Maximizing Fuel Economy
  - 3.7 Quiz
- Unit 3 Assignment - Energy Efficient Home Study

Unit 4: Air Pollution and Climate Change

In this unit, we will learn:

- About the different types of air pollution and their negative effects on human health and the environment.
- About the Earth's natural carbon cycles.
- About the greenhouse effect and how greenhouse gases contribute to climate change.

- 4.1 Types of Pollution
  - 4.1 Quiz
- 4.2 Smog
  - 4.2 Quiz
- 4.3 Particulate Matter
  - 4.3 Quiz
- 4.4 Oxides: Carbon, Nitrogen, Sulfur
  - 4.4 Quiz
- 4.5 Lead
  - 4.5 Quiz
- 4.6 Ozone
  - 4.6 Quiz
- 4.7 Volatile Organic Compounds
  - 4.7 Quiz
- 4.8 History of Earth's Climate: The Carbon Cycle and Paleoclimatology
  - 4.8 Quiz
- 4.9 The Greenhouse Effect
  - 4.9 Quiz

- 4.10 Greenhouse Gases and Climate Change
  - 4.10 Quiz
- Unit 4 Assignment - Local Air Pollution Article

Unit 5 - Societal and Individual Responses to Air Pollution and Climate Change

In this unit, we will learn:

- About ways that countries, communities, and individuals are taking action regarding air pollution and climate change.
- The basics of international treaties like the Kyoto Protocol, Montreal Protocol, and the Paris Accord.
- U.S. legislation like the Clean Air Act.
- How to reduce your own carbon footprint as an individual.
- How to make a community Climate Action Plan.

- 5.1 The Clean Air Act
  - 5.1 Quiz
- 5.2 Kyoto Protocol and Montreal Protocol
  - 5.2 Quiz
- 5.3 Paris Climate Accord
  - 5.3 Quiz
- 5.4 Thinking About Your Carbon Footprint
  - 5.4 Quiz
- 5.5 Greening Your Commute
  - 5.5 Quiz
- 5.6 Carbon Offsets
  - 5.6 Quiz
- 5.7 Climate Action Plans
  - 5.7 Quiz
- Unit 5 Assignment - Climate Action Plan

Unit 6: Water Pollution and its Effects

In this unit, we will learn:

- About different types of water pollution in rivers, oceans, lakes and what causes each type.
- The negative effects of each type of water pollution on humans, animals and the environment.

- 6.1 Chemical Pollution
  - 6.1 Quiz
- 6.2 Groundwater Pollution
  - 6.2 Quiz
- 6.3 Agricultural Runoff
  - 6.3 Quiz
- 6.4 Thermal Pollution
  - 6.4 Quiz
- 6.5 Oil Pollution
  - 6.5 Quiz

- 6.6 Noise Pollution
  - 6.6 Quiz
- 6.7 Plastic Pollution
  - 6.7 Quiz
- 6.8 Ocean Acidification
  - 6.8 Quiz
- 6.9 Coral Bleaching
  - 6.9 Quiz
- 6.10 Nutrient Pollution and Eutrophication
  - 6.10 Quiz
- Unit 6 Assignment - Safe Drinking Water Lab

Unit 7: Water Sustainability

In this unit, we will learn:

- About Earth's freshwater resources.
- About water scarcity and water rights on a local and global scale.
- How water treatments plans work.
- What not to put down the drain.
- Strategies that individuals can take to conserve water and use it more efficiently.

- 7.1 Earth's Freshwater Resources
  - 7.1 Quiz
- 7.2 Water Shortages and Climate Change
  - 7.2 Quiz
- 7.3 Water Rights
  - 7.3 Quiz
- 7.4 Water Quality and Wastewater Treatment
  - 7.4 Quiz
- 7.5 Using Water Wisely
  - 7.5 Quiz
- 7.6 Water-Smart Tips for Your Lawn
  - 7.6 Quiz
- 7.7 Rainwater Catchment Systems
  - 7.7 Quiz
- 7.8 Water Audits for the Home
  - 7.8 Quiz
- 7.9 What is Okay to Put Down the Drain
  - 7.9 Quiz
- Unit 7 Assignment - Water Conflict

The Final Exam

Complete all the assignments and unit tests in this course. Once they are complete and the assignments have been graded, the Final will be made available and appear below the Practice Final.

Warning: You have only ONE attempt at the Final. There is a 3 hour time limit.

Are you ready to take the Final? We highly recommend you take the Practice Final first and if you are weak in any area, review the relevant course material again. You have unlimited attempts at the practice final; it will help you to prepare.

Good Luck!!

Practice Final

Final Exam

Restricted Not available unless:

- The activity **Unit 1 Test** is marked complete
- The activity **Unit 2 Test** is marked complete
- The activity **Unit 3 Test** is marked complete
- The activity **Unit 4 Test** is marked complete
- The activity **Unit 5 Test** is marked complete
- The activity **Unit 6 Test** is marked complete
- The activity **Unit 7 Test** is marked complete
- The activity Unit 1 Assignment - Sustainability is marked complete
- The activity Unit 2 Assignment - Self-Sufficiency Engery Portfolio is marked complete
- The activity Unit 3 Assignment - Energy Efficient Home Study is marked complete
- The activity Unit 4 Assignment - Local Air Pollution Article is marked complete
- The activity Unit 5 Assignment - Climate Action Plan is marked complete
- The activity Unit 6 Assignment - Safe Drinking Water Lab is marked complete
- The activity Unit 7 Assignment - Water Conflict is marked complete

Course Completion

The "Certificate" and "Course Completion Record Request" links below are not active, they cannot be accessed until you have taken the final. Upon satisfying this requirement the links will become active and you can use them.

Before you go, we would appreciate your opinion on the course, please take 1 minute to complete the feedback form.

We hope you enjoyed this course!

Course Feedback

Thank you for taking this course! Let us know what you think about it.

Request a Course Completion Record

If you need SVHS to send proof of your course completion directly to your school complete this form.

Restricted Not available unless: The activity **Final Exam** is marked complete

Certificate of Completion

Restricted Not available unless: The activity **Final Exam** is marked complete